



NOMINATION OF THE  
**ROAD LIFT BRIDGE, MURRAY RIVER**  
at  
**BARHAM – KOONDROOK**  
FOR THE AWARD OF AN  
**HISTORIC ENGINEERING MARKER**  
COMMEMORATING ITS CENTENARY 8 OCTOBER 2004



Prepared by Don Fraser  
for the Engineering Heritage Committee  
Sydney Division  
March 2004

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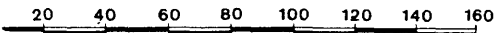
### **ASSESSMENT**

**Plaque Nomination Assessment Form**



as at 1 January 1989

### SCALE OF KILOMETRES



## **OVERVIEW**

### **INTRODUCTION**

Murray-Darling river trade was underway at the time of the Victorian gold rushes in the 1850s with the first paddle steamers passing upstream of the twin settlement of Barham (NSW) and Koondrook (Vic) by the 1860s. When river transportation reached its peak in the 1890s some 200 paddle steamers were actively engaged in the trade.

In the earlier days, much of the cross-river transportation was by punts and ferries but as traffic grew, so did local pressure for their replacement by bridges. When designing these structures, engineers needed to make provision for a movable span to allow the passage of river traffic.

The six basic types of movable span bridges are the pontoon, sliding, transporter, swing, bascule and lift bridges. Eighteen movable span bridges were built in the Murray-Darling system between 1858 and 1969, one pontoon, one swing, one push-up, three bascule and twelve lift bridges.

Several designs of the lift bridge were used in the Murray-Darling system. Around 1900 NSW Public Works bridge engineer E M de Burgh produced a design which was of combined metal and wooden construction, cheaper to build and easier to operate and maintain than existing movable span bridges in the system. Two bridges of this design were built, one at Cobram-Barooga (1902) and the other at Barham-Koondrook (1904). The former is about to be replaced but the river spans will be retained. The latter bridge is operational and will be completely retained. They are the only lift bridges flanked by de Burgh composite steel and timber trusses

This nomination proposes the Barham-Koondrook bridge receive an Historic Engineering Marker award as an historic engineering work and in commemoration of its 8 October 2004 centenary.

## STATEMENT OF SIGNIFICANCE

(summarising important items from the assessment)

- The Barham-Koondrook Bridge is significant under all four principal heritage criteria
    - Historical and Associations, Aesthetic, Social and Technical.
  - i. **Historically** because of its place in the evolving pattern of bridge design in New South Wales. The bridge is a reminder of the part it played in the important era of Australia's history, the River Trade, and continues serving the important north-south inland stock route from Queensland to Melbourne.
  - ii. By **Association** with two eminent engineers, E M de Burgh and Sir John Monash, and the famous 'Cattle King' Sir Sidney Kidman whose immense inland stock trade utilised bridges such as Barham to cross the Murray River.
  - iii. **Aesthetically** because the bridge is a gateway structure between New South Wales and Victoria, and dominates the river domain between the twin towns of Barham and Koondrook with clean bold lines in its outstanding setting.
  - iv. **Socially** because it acts as a strong physical bond between the twin towns due to easy cross-river commuting. A social benefit is the low level of duplicated retail and other services. There is strong river tourism, and prosperity from the cross-river inland commerce and trade that continues since the Kidman days (1880-1935).
  - v. **Technically** because E M de Burgh made a number of improvements to Percy Allan's 1896 lift bridge design at Swan Hill which created smoother operation and reduced the manual winching effort. The flanking composite timber trusses, a design introduced by de Burgh in 1899, were a structurally improved type that now bears his name. Barham Bridge is one of only two examples of the combination of lift bridge and composite timber trusses on the Murray River and in New South Wales. The bridge is in its original configuration, is operational and is in good condition.
- The Bridge is on the State Heritage Register as an item of State Significance.

# Plaque Nomination Form

The Administrator  
Engineering Heritage Australia  
Engineers Australia  
Engineering House  
11 National Circuit  
BARTON ACT 2600

Name of work: **BARHAM-KOONDROOK LIFT BRIDGE**

The above-mentioned work is nominated to be awarded an  
**Historic Engineering Marker**

Location, including address and map grid reference if a fixed work:

**Murray River, Barham-Koondrook**

Owner **Roads and Traffic Authority, NSW**

The owner has been advised of this nomination, and a letter of agreement is attached. **Letter dated 15 July 2003**

Access to site: **Public bridge**

Nominating Body: **Engineering Heritage Committee, Sydney**

*Glenn Rigden*  
Chair of Nominating Body

Date: *March 2004*



**Roads and Traffic  
Authority**  
www.rta.nsw.gov.au

15 JUL 2003

Mr Don Fraser  
Secretary  
Engineering Heritage Committee Sydney  
The Institution of Engineers Australia  
PO Box 2044  
Rose Bay North NSW 2030.

Centennial Plaza  
260 Elizabeth Street  
Surry Hills NSW 2010  
Telephone (02) 9218 6888  
PO Box K198  
Haymarket NSW 1238  
DX 13 Sydney

Dear Mr Fraser,

### **Plaquing the Barham-Koondrook Bridge**

Reference is made to your letter dated 20 June 2003 addressed to the General Manager, Infrastructure Maintenance regarding the commemorative plaquing of the Bridge over the Murray River between Barham and Koondrook.

It should be noted that your letter incorrectly refers to the bridge in question as 'Barmah' instead of 'Barham'. I agree in principle to the Institution of Engineer's proposal for the commemorative plaquing of this bridge at its centenary of opening on 8 October 2004.

Mr Andrew Cramp, Area Maintenance Manager Bridges, South West Region is nominated as the contact officer for this project. He will advise on a suitable location and will arrange for installation of the plaque. Further he will be the contact regarding the timing and any arrangements regarding the unveiling ceremony for the plaque.

Mr Cramp's contact details are given below:

Address: PO Box 484  
Wagga Wagga NSW 2650  
Telephone: (02) 6938 1153  
Facsimile: (02) 6938 1183

Yours sincerely

**Paul Forward**  
**Chief Executive**

CC: Bridge Maintenance Planner, South West Region

Proposed Plaque Citation:

I E Aust

Logo

## **HISTORIC ENGINEERING MARKER**

### **Barham- Koondrook Bridge, Murray River**

This bridge comprised of a lift span and two de Burgh composite timber trusses was designed by E M d Burgh MICE Bridge Engineer of the NSW Public Works Department and opened on 8 October 1904. An improvement on earlier designs, it was built by Messrs Monash & Anderson of Melbourne. The bridge allowed the passage of paddle steamers and continues to efficiently serve the northern inland stock route to Melbourne.

(76 words)

**The Institution of Engineers Australia  
Roads and Traffic Authority, NSW  
Wakool and Gannawarra Shire Councils, 2004**



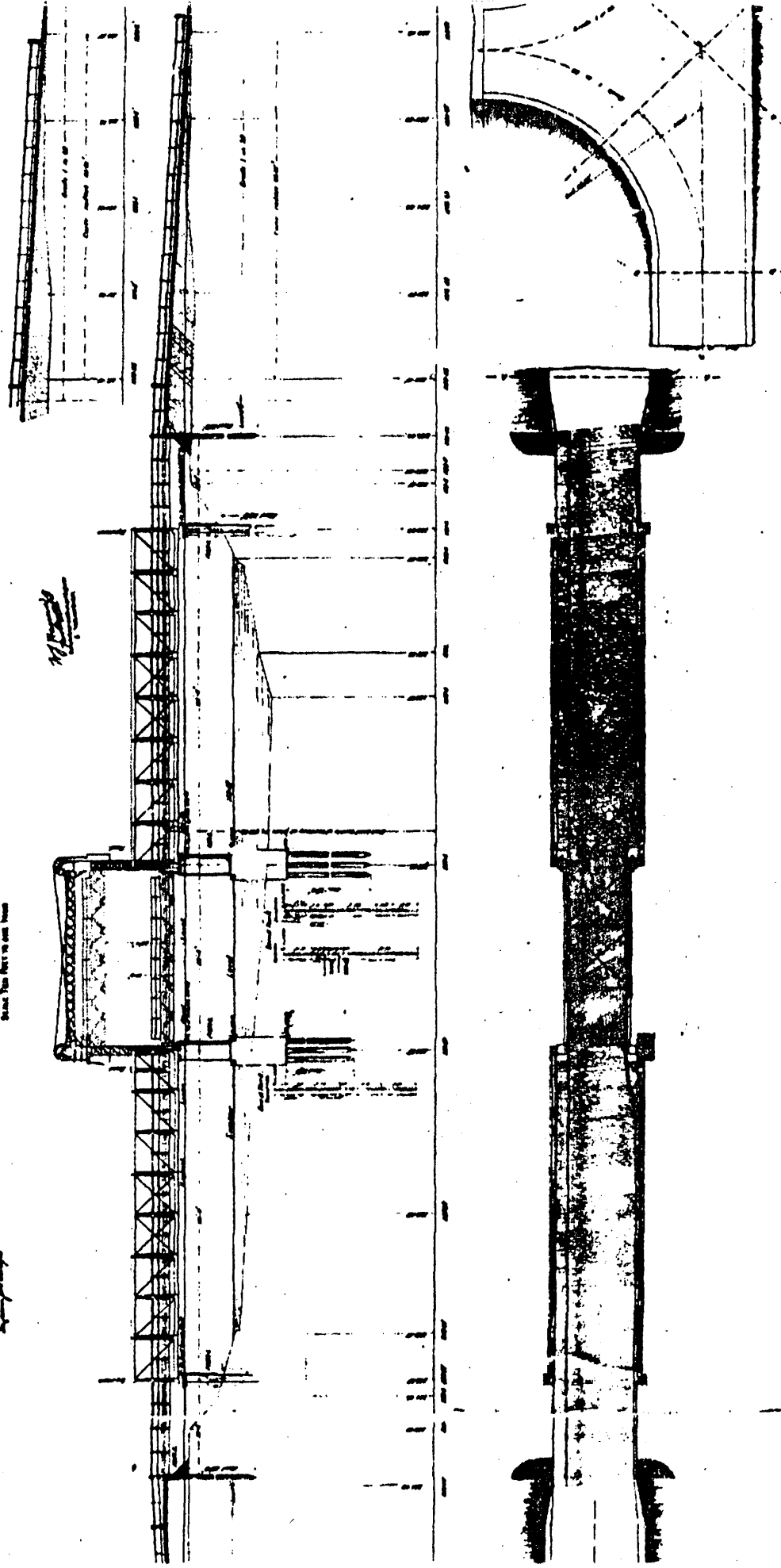
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# BRIDGE OVER MURRAY RIVER AT BARHAM-KOONDROOK

GENERAL ELEVATION AND PLAN OF BRIDGE AND APPROACHES

*Handwritten signature*

Scale: This Part to one foot





The Barham-Koondrook Bridge



Newspaper photograph at bridge opening 8 October 1904

The opening of the above took place last Saturday and proved a most successful function. The day was everything that could be desired from a weather point of view; and the immense crowd who had gathered from both sides of the river lost no opportunity of having an enjoyable outing.

The members of Parliament, Federal and State and other visitors formed an imposing party and included: Senator Simon Frazer, House of Representatives, Sydney Smith, PMG, Sir John Fores, WA, G.W. Fuller and J.M. Chanter (NSW) and J.H. McColl, Vic. New South Wales State Members, H.C. Lee,

Reynoldson and Ball, Victorian Parliament, R.B. Rees, E.H. Cameron, G.M. Prendergast, Thom. Langdon, D. Smith, E. Cameron, A.R. Robertson, G.A. Elmslie, J.A. Boyd, P. McBride, J. Cullen. Other visitors H. Davidson, W.J. Hanna, C. Dunston, Bendigo, W.J. Andrew, Mr. Lee, Deniliquin, C.A. Albrecht, G.H. Hayes and C. Yeo.

The guests all arrived by special train from Bendigo and after a luncheon in Kerang they proceeded to Koondrook where the steamer Rothbury. Captain Wilson, was waiting with a reception committee

and the Kerang Band. The boat negotiated the mile of river to the bridge in fine style. When nearing the bridge the river was seen to be lined with crowds of people. When the bridge came in view exclamations of admiration were made at the fine appearance of the structure which was adorned with flags. Every available piece of bunting was also displayed at Koondrook and Barham. Both townships had risen to the occasion in fine style. When nearing the bridge it was seen that the centre span was raised and the boat steamed through to the strains of the band and hooraying of bystanders. After

going down stream a short distance she swung around and proceeded up stream through the bridge and landed the party on the bank nearby. The opening ceremony was, with the following banquet, a signal for many long speeches and praising the bridge and each other.

The ribbon was finally cut by Mr. Lee who with penknife in hand severed the silken band and declared the bridge open for the use of the public and a rush was made to cross from both sides.

After the opening a banquet was held on the Victorian side downstream of the bridge.

#### Description of the opening of the bridge



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Professor David and the  
idents of Sydney Univer-

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nto the sea by the rivers

**TOMAHAWKS.**

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lay, the change of level  
is taken place, since the  
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p now buried 15ft below

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see-saw movement on the  
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**New Bridge Over the Murray.**

The new bridge across the Murray, between  
Koondrook and Barham, which forms the twelfth  
similar connecting link between Victoria and  
New South Wales, was formally declared open  
on Saturday afternoon by Messrs. Cameron and  
Lee, Ministers for Public Works of Victoria and  
New South Wales respectively, in the presence  
of a number of representative men and a large  
gathering of the general public. Among others  
present were: Mr. Sydney Smith, Postmaster-  
General; Sir John Forrest, Messrs. Fuller, Chan-  
ter, M'Coll, Ms.H.R., and Messrs. Ball and Roy-  
noldson, Ms.L.A.

The bridge is of the same general type as  
other bridges erected over the Murray at Mul-  
wala, Swan Hill, Cobram, and Tocumwal—that  
is, a lift span, to provide for navigation, with  
fixed girder side spans. The lift span is of  
the most improved description, giving a clear  
opening of 52ft 4in between the cylinders, with  
a headway of 24ft above the highest known  
flood, or about 39ft above the summer level of  
the river when the span has been lifted. The  
lift span, which is of steel, carries a timber  
deck 16ft 6in wide in the clear, between kerbs,  
and weighs about 34 tons. It is so evenly bal-  
anced that one man, by means of the gearing  
provided, can raise and lower it with ease. The  
two main piers consist of a pair of wrought-  
iron cylinders, 6ft in diameter, connected by  
wrought-iron diaphragm bracing and filled  
with cement. The foundations of these piers  
are formed of concrete bases, carried upon  
timber piles driven into the clay of the river-  
bed. The side spans consist of two composite  
truss spans, each of 10ft, and two beam spans  
of 30ft each, making a total length of structure  
of 230ft. The side and approach spans carry  
a deck 19ft 9in wide, and a 3ft 6in footway is  
also provided. The approach spans, abutments,  
and land piers are of timber, and earthwork  
approaches to the bridge have been constructed  
on either side of the river. It is interesting to  
note that to construct the bridge there were  
used 165 tons of iron and steel, 300 cubic yards  
of concrete, 1330 lineal feet of round timber, and  
90,000 superficial feet of hewn and sawn timber.

The bridge is the result of joint action on  
the parts of the Governments of New South  
Wales and Victoria. Designed in the Depart-  
ment of Public Works, Sydney, the contract  
was secured by Messrs. Monash and Anderson,  
of Melbourne; the ironwork was manufactured  
at Cowley's Eureka Ironworks, Ballarat; and  
the manufacture and erection has been super-  
vised by Mr. J. B. A. Reed, under the direction  
of Mr. W. J. Hanna, Commissioner and Prin-  
cipal Engineer for Roads and Bridges, New  
South Wales. The cost of the bridge has been  
£10,345, and is borne jointly by the two States.  
The bridge is one of 12 which now span the  
Murray River between Swan Hill and Tintaldra.  
With the exception of the bridge at Cobram,  
which was built at the sole expense of Victoria,  
all these 12 bridges have been erected, and are  
maintained at the joint expense of New South  
Wales and Victoria. They are situate at Tin-  
taldra, Jingellie, Hawkesview, Albury, How-  
long, Corowa, Mulwala, Cobram, Tocumwal,  
Echuca-Moama, Barham-Koondrook, and Swan  
Hill, and have cost, in the aggregate, £200,000.  
This comparatively short length of the Murray  
may, therefore, be said to be well provided  
with bridges, affording a ready means of in-  
ter-communication between the people in the  
border districts of the two States.

**Inland Fisheries.****Letters from People Cured of Rheumatism, Gout, Lumbago, and Sciatica.**

From Miss Emily Woodhouse, 109 William  
street, Sydney, N.S.W., 11th April, 1904.

"I had suffered from rheumatism and sciatica  
for several years, and had tried many remedies,  
also a trip to the Hot Lakes of New Zealand.  
The latter gave me temporary relief; but, af-  
ter settling down in Sydney, the old complaint  
recurred, so I gave Warner's Safe Cure a try  
for some time, and can now confidently state  
that I have not had the slightest sign of the  
painful trouble from which I suffered so long.  
I am pleased to state this for the benefit  
others who may suffer as I did."

From Mr. F. L. Seager, Waratah-street, De-  
linghurst, N.S.W., 17th February, 1904.

"About six years ago, I had an attack  
lumbago, so severe that I could not walk for  
nine weeks. I tried many medicines, poro-  
plasters, and electric batteries, without mater-  
ial relief. My doctor could do nothing for me.  
Hearing so much about Warner's Safe Cure,  
I decided to try it. After taking the first bottle  
I felt greatly relieved, and started to walk  
again; and, after taking eight bottles, I was  
completely cured. I have not suffered in any  
way since, and strongly recommend Warner's  
Safe Cure to anyone afflicted with a similar  
complaint. I consider the medicine inval-  
uable."

From Mr. John Spencer, 371 Parramatta-road,  
Leichhardt, N.S.W., 6th February, 1904.

"Some eight years ago I commenced to suffer  
from rheumatism and indigestion, and up-  
about two years ago obtained no relief from  
doctors nor any medicine taken. Having re-  
ceived a pamphlet containing many testimonials  
cures by Warner's Safe Cure, I decided to try  
that medicine myself; and, after taking five-  
six bottles, and following the directions given,  
I was a new man. I have not suffered in any  
form since."

From Mr. William Pollock McAuslan, 10 Re-  
sell-place, North Williamstown, Vic.

"Some eight years ago I was laid up with  
very persistent attack of rheumatism, and, al-  
though I was under the care of a leading medi-  
cal man, at the end of four or five months, in-  
stead of getting better, I was growing grad-  
ually worse, and, in the doctor's own words,  
'would never make any permanent improve-  
ment.' Fearing that his words might be true,  
I refused to take his medicine any longer,  
and, as a last hope, gave Warner's Safe  
Cure a trial. From the taking of the first  
dose, I could see hope ahead, and in a very  
little while all pain had left me, and I never  
had the slightest sign of any relapse until a  
complete recovery some seven weeks later. The  
doctor's words, thanks to Warner's medicine,  
have not been verified, as, from that day, eleven  
years ago, to this, I have not had the slight-  
est symptom of that dreadful complaint."

From Mr. George Wedlock (The Sandhu  
Samson), Milburn's Coffee Palace, Bendu-  
Vic., 11th September, 1903.

"About two years ago I was prostrated with  
sciatica, and suffered excruciating pain in my  
legs, more especially in my knee joints. I had  
always been a strong, active man, and did not  
like the idea of having to lay up, as I was ad-  
vised by a physician, so I tried various adver-  
tised remedies, but with no real benefit. At the  
time, Warner's Safe Cure was brought under  
my notice, and I began to take it. I took the

## Ernest Macartney de BURGH



E M de Burgh (1863-1929) was one of Australia's foremost engineers of the late colonial period and the early 20<sup>th</sup> century. He was born in Dublin, Ireland and received his engineering education at the Royal College of Science. At age 22 he arrived in Melbourne then onto Sydney where he joined the New South Wales Department of Public Works on 30 April 1885. He was to specialise in the design and construction of bridges, water-supply schemes and dams.

By 1901, when was appointed Engineer for Bridges, he had been associated with many major bridges such as those at Wilcannia, Wentworth, Mulwala, Swan Hill, Wagga Wagga, Singleton, Morpeth, Kempsey, Murwillumbah and Kangaroo Valley. Some of these, including the latter, have been plaqued by the Institution of Engineers, Australia. He had also developed the composite timber and steel truss that now bears his name and was a member of the Sydney Harbour Bridge Advisory Board.

In 1903 he was appointed Principal Engineer for rivers, water-supply and drainage and was sent to England and France to study dam construction and water-supply. On his return he was given special responsibility for the design and construction of Cataract Dam, first dam of the Upper Nepean Water-supply Scheme for Sydney, and was associated with the Burrinjuck Dam, both are National Engineering Landmarks.

In 1913 he was appointed Chief Engineer for Water-supply and Sewerage and assumed responsibility for the other three dams of the Upper Nepean Scheme (Cordeaux, Avon and Nepean), for Newcastle's water-supply (Chichester Dam) and for Broken Hill (Umberumberka Dam). He represented NSW on the Conference of Engineers whose Report of 1913 led to the construction of Hume Dam and weirs along the River Murray. These works have been collectively designated as a National Engineer Landmarks.

Ernest Macartney de Burgh was regarded as one of the ablest civil engineers in Australia whose achievements had been recognised internationally. He had twice won the prestigious Telford premium of the Institution of Civil Engineers, London.

## Plaquing Nomination Assessment Form

### 1. BASIC DATA

**Item name:** Barham – Koondrook Lift Bridge.

**Other/Former Names:**

**Location:** MR 319 Barham, NSW.

**Address:** See above.

**Suburb/Nearest Town:** Barham, NSW and Koondrook, Vic..

**State:** New South Wales (spans the NSW-Victoria border).

**Local Government Area:** Shire of Wakool.

**Owner:** Roads and Traffic Authority of NSW.

**Current Use:** Road bridge with lift span for river craft.

**Former Use:**

**Designer:** Ernest Macartney de Burgh MICE, Bridge Engineer, NSW Public Works Department.

**Maker/Builder:** Messrs Monash & Anderson of Melbourne.

**Year Started:** 1903      **Year Completed:** 1904 at a cost of £ 11,358.

**Physical Description:** The bridge is composed of a 34-ton lattice steel lift span 58ft 4inches (17.8metres) between centers of bearings over piers, supported by four lattice steel towers able to raise the lift span so as to achieve a headroom of 30ft 6inches (9.3 metres) at normal water level. The clearway between piers is 49ft 4inches (15 metres). The pair of piers are wrought iron cylinders founded on a concrete base upon piles driven into stiff clay. They are protected by steel sheet piling.

There are two timber beam spans, one at each end of the bridge, a linking the trusses to each shore, timber decking throughout and a segregated footway.

**Physical Condition:** Good – still in use with its lift span operational.

**Modifications and Dates:** The towers were raised 6ft 6inches (2metres) in 1925, in the same form of construction, in order to increase the headroom for paddle steamers on flood levels.

**Historical Notes:** The Murray River around Barham was settled by graziers, mainly in the 1840s from south of the river in what became Victoria. The really desirable water-frontages were quickly taken up while the open plains to the north in N S W remained undeveloped backblocks. E B Green's 'Barham' station had a 32 kilometre frontage to the river. With similar developments along the Loddon River, which joins with the Murray north of Barham, there was a need for a crossing. However, it was as late as 1884 before a ferry was operating at Barham.

By 1902 the volume of stock traffic alone justified a bridge, but it had to allow the passage of paddle steamers and other river craft, hence a moveable span was required. Under Federation, the Commonwealth, Victorian and NSW Governments agreed that a lift bridge be built. The contract was let in September 1902, the first piles were driven in early 1903 and the bridge was opened on 8 October 1904.

#### **Heritage Listings:**

**Name:** NSW State Heritage Inventory.

**Title:** Barham Bridge over Murray River.

**Number:** 01456.

**Date:** 20 June 2000.

## **2. ASSESSMENT OF SIGNIFICANCE**

**Historic Phase:** The Barham Bridge has historical significance due its place in the evolving pattern of bridge design in Australia, particularly in NSW where Percy Allan, E M de Burgh and Harvey Dare were putting Australian bridges on the international scene. The bridge - served an important era in Australia's history - the River Trade from the 1860s to 1920s when at times as many as 200 paddle steamers plied the Murray, Murrumbidgee and Darling Rivers. But also, the bridge provided a long and continuing service to the north-south inland stock route from Queensland to Melbourne, epitomised by the famous 'Cattle King' Sir Sidney Kidman.

**Historic Association:** The bridge has historical associations with two eminent Australian engineers, the Irish-born E M de Burgh and native-born Sir John Monash. The former became Bridge Engineer in the NSW Public Works Department and designed (among many others) the Barham Bridge. He later turned his engineering skills to water supply engineering and is closely associated with Burrenjack and Hume Dams.

John Monash formed the eminent Melbourne-based engineering firm of Monash & Anderson which built the Barham Bridge. John Monash also became a famous soldier, commanding the Australian forces in World War I and received a knighthood for military achievements during World War I.

**Aesthetics:** The Barham Bridge has aesthetic significance due to its outstanding setting and landmark qualities. It is a gateway structure between New South Wales and Victoria. It dominates the twin townships of Barham and Koondrook, that are situated on the edges of both shores.

**Social:** The bridge has high significance to the local and districts residents, typified by the plans to celebrate the centenary of the opening of the bridge. There is a strong bond between the twin towns with a significant amount of commuting across the bridge. The bridge acts as a reminder of the Glory Days of the River Trade by virtue of it being operational thereby allowing river craft, particularly tourist paddle steamers to pass through.

**Creative or Technical Achievement:** E M de Burgh's design for the Barham Bridge had a number of improvements over existing designs, which were summarised by Harvey Dare in 1904, and Percy Allan in a series of papers in 1924. In particular, de Burgh's 1902/04 improved operation of the lift spans was to use cables rather than chains and to place the counterweights on the shore-facing sides of the lift towers with the sheaves at the tops of the towers aligned parallel to the bridge axis. De Burgh also included small cast iron 'pigs' with the counterweights to allow adjustment of the balance.

The lifting deck, the towers and the winching system were significant improvements in a continuing evolution of improvements, since J A McDonald's 1893 lift bridge at Mulwala, that achieved lighter designs, being less likely to jam and able to be operated by one man from an elevated platform at the top of one tower.

De Burgh pioneered a standardised form of composite steel and timber truss which now bears his name.

The complete bridge encapsulates de Burgh's significant contribution to the development and sophistication of Australian bridge design around 1900, for example, his 165ft composite truss bridge over the Lane Cove River at North Ryde was the largest of its type ever built in Australia.

**Research Potential:** The bridge design work by de Burgh has been well researched already.

**Rarity:** Rare, one of only two.

**Representativeness:** By 2010, the 1904 Barham Bridge will be the only complete bridge representing the combination of lift bridge and de Burgh trusses. Its sister bridge, the 1902 Cobram Bridge will have been replaced by a new bridge with only the 1902 river spans retained as a tourist attraction.



**Integrity/Intactness:** Still in use and operational. The only modification has been raising of the lift towers by 2 metres in 1925 in the same form of fabrication and construction. The bridge is essentially in its original configuration.

<b>References:</b>	<b>Author</b>	<b>Title</b>
	Don Fraser	“Evolution of the Timber Truss Bridge in NSW”.
	Don Fraser	“Moveable Span Bridges in NSW prior to 1915”.
	Don Fraser	Biosketch “Ernest Macartney de Burgh”.
	GHD Pty Ltd	Paper commencing “History of Barham Area”
	Percy Allan	“Highway Bridge Construction” 6-part series in 1924.

## **STATEMENT OF SIGNIFICANCE**

(summarising important items from the assessment)

The Barham-Koondrook Bridge is significant under all four principal heritage criteria  
 - Historical and Associations, Aesthetic, Social and Technical.

- i. **Historically** because of its place in the evolving pattern of bridge design in New South Wales. The bridge is a reminder of the part it played in the important era of Australia’s history, the River Trade. and continues serving the important north-south inland stock route from Queensland to Melbourne.
- ii. By **Association** with two eminent engineers, E M de Burgh and Sir John Monash, and the famous ‘Cattle King’ Sir Sidney Kidman whose immense inland stock trade utilised bridges such as Barham to cross the Murray River.
- iii. **Aesthetically** because the bridge is a gateway structure between New South Wales and Victoria, and dominates the river domain between the twin towns of Barham and Koondrook with clean bold lines in its outstanding setting.
- iv. **Socially** because it acts as a strong physical bond between the twin towns due to easy cross-river commuting. A social benefit is the low level of duplicated retail and other services. There is strong river tourism, and prosperity from the cross-river inland commerce and trade that continues since the Kidman days (1880-1935).
- v. **Technically** because E M de Burgh made a number of improvements to Percy Allan’s 1896 lift bridge design at Swan Hill which created smoother operation and reduced the manual winching effort. The flanking composite timber trusses, a design introduced by de Burgh in 1899, were a structurally improved type that now bears his name. Barham Bridge is one of only two examples of the combination of lift bridge and composite timber trusses on the Murray River and in New South Wales. The bridge is in its original configuration, is operational and is in good condition.

The Bridge is on the State Heritage Register as an item of State Significance.

**Assessed Significance:** **STATE**, as confirmed by the S170 Registration, Roads and Traffic Authority, 15 May 1998.



The 1904 Barham - Koondrook Bridge, lift span and tower flanked by de Burgh type composite steel and timber trusses.